ABSTRACT

Temperature of each cooling target fluid is detected. When the flow rate of a cooling target fluid passing through a cooling system (30) is high, such as when either one or both of the levers are being operated, the fan revolution speed of a cooling fan (17) of the cooling system (30) is controlled to achieve a target fan revolution speed (Ntf) so that the detected temperature of the cooling target fluid reaches a preset target temperature. In cases where the engine is in either AEC state or one-touch low idling state with the levers at the neutral position, the flow rate of each cooling target fluid passing through the cooling system (30) is reduced. Therefore, the fan revolution speed of the cooling fan (17) is controlled to achieve a new target fan revolution speed (Ntfnew) that is lower than the target fan revolution speed (Ntf). At that time, a new target fan revolution speed (Ntfnew) for the period during which the levers are at the neutral position is calculated by multiplying the fan revolution speed (Ntf) at that time by the ratio (Ncoe/Nhie), in which Ncoe represents the engine speed for the period during which the levers are at the neutral position and Nhie represents the engine speed for the for the period during which at least one of the levers is operated. The control method described above is effective in reducing thermal strain occurring in a cooling system (30) that is provided with a cooling fan (17), resulting in the improved durability of the cooling system (30).